

1 **WHAT IS CLAIMED IS:**

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3 1. An air nozzle and relief valve arrangement used in a vertical tire pump,
4 comprising:

5 an air nozzle, said air nozzle having a first end, a second end connected an
6 air output hose of said vertical tire pump, an air passage extended between
7 said first end and said second end, a filling plug assembly mounted in said
8 first end, and a lever coupled to said filling plug assembly for operation by
9 the user to move said filling plug assembly between an open position for
10 enabling air to pass from said air passage to the inflatable body being
11 connected to said first end and a close position to block said air passage;
12 and

13 a relief valve mounted in said air nozzle in air communication with said air
14 passage and selectively controlled to discharge air out of said air passage
15 into the atmosphere.

16 2. The air nozzle and relief valve arrangement as claimed in claim 1, wherein
17 said filling plug assembly is selectively connectable to a US model air
18 valve and a French model air valve.

19 3. The air nozzle and relief valve arrangement as claimed in claim 1, wherein
20 said air nozzle has a first through hole and a second through hole
21 respectively perpendicularly extended from said air passage and adapted to
22 accommodate said relief valve.

23 4. The air nozzle and relief valve arrangement as claimed in claim 1, wherein
24 said relief valve comprises a valve rod, a valve cap, a spring member
25 provided between said valve rod and said valve cap, a first through hole

1 formed in said air nozzle and adapted to accommodate said valve rod, and a
2 second through hole formed in said air nozzle and adapted to accommodate
3 said valve cap.

4 5. The air nozzle and relief valve arrangement as claimed in claim 4, wherein
5 said valve rod has a first end inserted through said first through hole to the
6 outside of said air nozzle, a second end suspended inside said air nozzle, and
7 a flange extended around the periphery of said second end.

8 6. The air nozzle and relief valve arrangement as claimed in claim 5, wherein
9 said relief valve further comprises an O-ring mounted on said valve rod and
10 supported on said flange and adapted to be stopped between said flange and
11 a shoulder in said first through hole.

12 7. The air nozzle and relief valve arrangement as claimed in claim 5, wherein
13 said valve rod has an outer diameter smaller than said first through hole.

14 8. The air nozzle and relief valve arrangement as claimed in claim 5, wherein
15 said relief valve further comprises a button fastened to the first end of said
16 valve rod and disposed outside said air nozzle for operation by the user.

17 9. The air nozzle and relief valve arrangement as claimed in claim 4, wherein
18 said valve cap has an outer thread, and said second through hole has an inner
19 thread adapted to receive the outer thread of said valve cap.

20 10. The air nozzle and relief valve arrangement as claimed in claim 9, wherein
21 said relief valve further comprises an O-ring mounted on said valve cap and
22 stopped between said valve cap and a shoulder in said second through hole.

23 11. The air nozzle and relief valve arrangement as claimed in claim 9, wherein
24 said valve cap has a center recessed hole adapted to hold one end of said
25 spring member; said spring member has one end set in the center recessed

1 hole of said valve cap and an opposite end sleeved onto the second end of
2 said valve rod and stopped against said flange.

3 12. The air nozzle and relief valve arrangement as claimed in claim 9, wherein
4 said valve cap has a bottom tool hole for the positioning of a tool adapted to
5 rotate said valve cap.

6 13. The air nozzle and relief valve arrangement as claimed in claim 1, wherein
7 said relief valve is in a close status when received no external pressure.

8 14. The air nozzle and relief valve arrangement as claimed in claim 1, wherein
9 said relief valve is opened when pressed by the user.

10 15. The air nozzle and relief valve arrangement as claimed in claim 1, wherein
11 said relief valve is disposed below said lever, and said lever protects said
12 relief valve against outside dust.

13 16. The air nozzle and relief valve arrangement as claimed in claim 4, wherein
14 said relief valve is in a close status when received no external pressure.

15 17. The air nozzle and relief valve arrangement as claimed in claim 4, wherein
16 said relief valve is opened when pressed by the user.

17 18. The air nozzle and relief valve arrangement as claimed in claim 4, wherein
18 said relief valve is disposed below said lever, and said lever protects said
19 relief valve against outside dust.

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